

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: DEERING RESERVOIR	Lake Area (ha):	127.64
Town: DEERING	Maximum depth (m):	11.3
County: Hillsborough	Mean depth (m):	3.5
River Basin: Merrimack	Volume (m <sup>3</sup> ):	4442500
Latitude: 43°03'07" N	Relative depth:	0.9
Longitude: 71°50'28" W	Shore configuration:	2.21
Elevation (ft): 921	Areal water load (m/yr):	4.54
Shore length (m): 8850	Flushing rate (yr <sup>-1</sup> ):	1.30
Watershed area (ha): 1139.6	P retention coeff.:	0.67
% watershed ponded: 1.0	Lake type:	artificial

BIOLOGICAL:

10 February 1998

31 July 1997

DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 85%	ASTERIONELLA 50%
	#2	DINOBRYON 10%	CHRYOSPHAERELLA 30%
	#3		DINOBRYON 12%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			2.54
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 37%	KERATELLA 37%
	#2	NAUPLIUS LARVA 22%	POLYARTHRA 24%
	#3	ASPLANCHNA 13%	
ROTIFERS/LITER		104	110
MICROCRUSTACEA/LITER		44	10
ZOOPLANKTON ABUNDANCE (#/L)		154	120
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			7.2
BOTTOM DISSOLVED OXYGEN (mg/L)		7.2	0.7
BACTERIA (E. coli, #/100 ml)	#1		3
	#2		< 1
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	6.7
Hypolimnion volume (m <sup>3</sup> ):	32500
Anoxic volume (m <sup>3</sup> ):	25250

**CHEMICAL:**

Lake: DEERING RESERVOIR  
Town: DEERING

	10 February 1998		31 July 1997		
DEPTH (m)	3.5	7.0	4.0	7.0	9.0
pH (units)	6.1	6.0	6.7	6.9	6.5
A.N.C. (Alkalinity)	5.1	5.6	4.8	4.6	4.9
NITRATE NITROGEN	< 0.05	0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.20	0.20	0.10	0.30	0.30
TOTAL PHOSPHORUS	0.010	0.009	0.005	0.010	0.023
CONDUCTIVITY ( $\mu$ mhos/cm)	67.6	75.4	60.9	59.4	60.1
APPARENT COLOR (cpu)	< 5	< 5	< 5	8	18
MAGNESIUM			0.55		
CALCIUM			2.8		
SODIUM			7.4		
POTASSIUM			0.38		
CHLORIDE	12	14	11		11
SULFATE	4	4	4		4
TN : TP	20	28	20		13
CALCITE SATURATION INDEX			3.5		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1997**

D.O. S.D. PLANT CHL TOTAL CLASS

4	0	1	0	5	Oligo.
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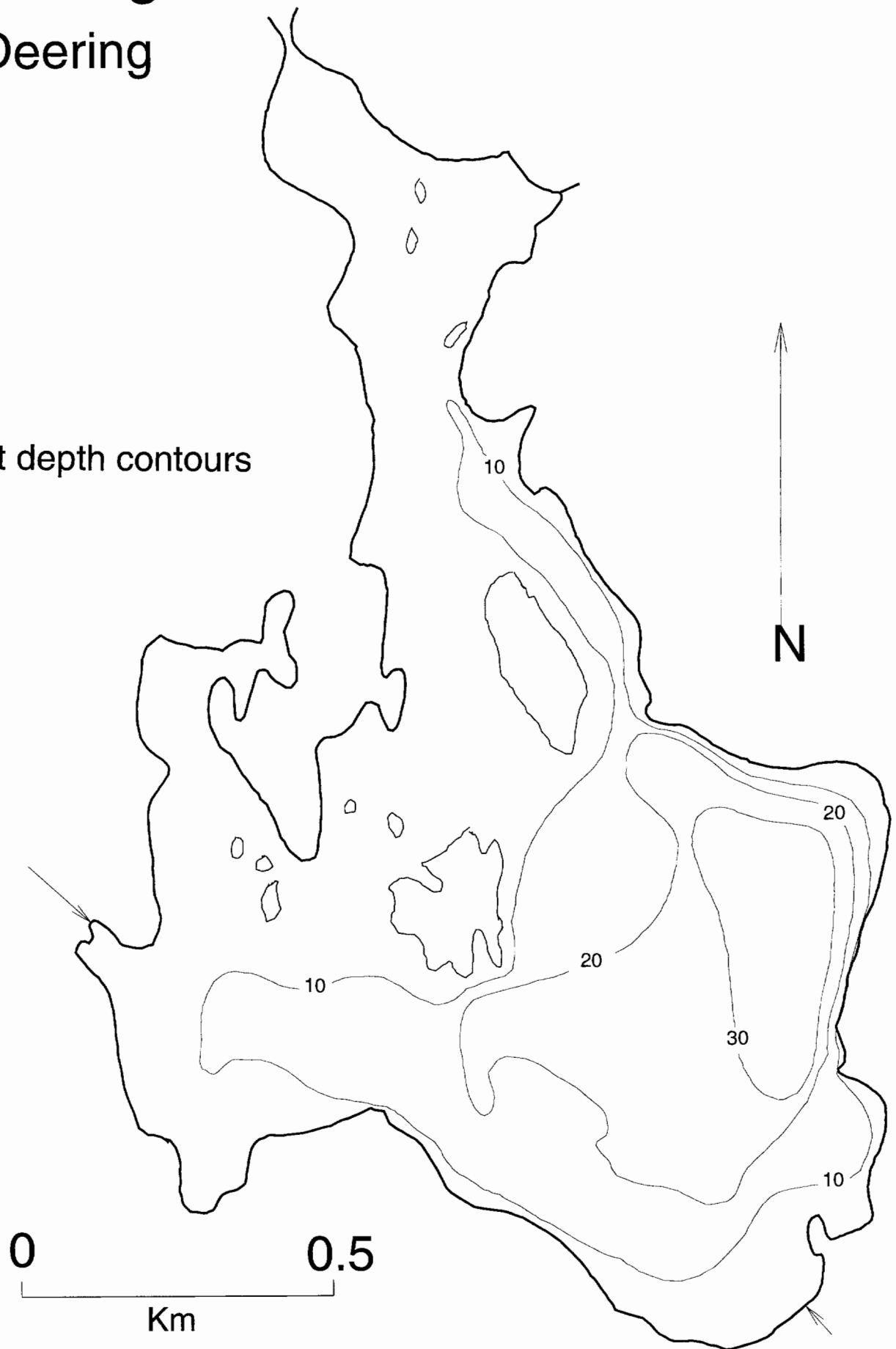
**COMMENTS:**

1. AKA Deering Lake.
2. Deering Reservoir was previously surveyed in 1980 and was classified mesotrophic. Water clarity was greater and chlorophyll was lower in 1997 as compared to 1980.
3. This pond participates in DES' Volunteer Lake Assessment Program and has shown good, stable or slightly improving trophic quality since 1987.
4. This pond has clear water, a deep thermocline, and a very small hypolimnion (1% of lake volume) which was mostly anoxic.

# Deering Reservoir

Deering

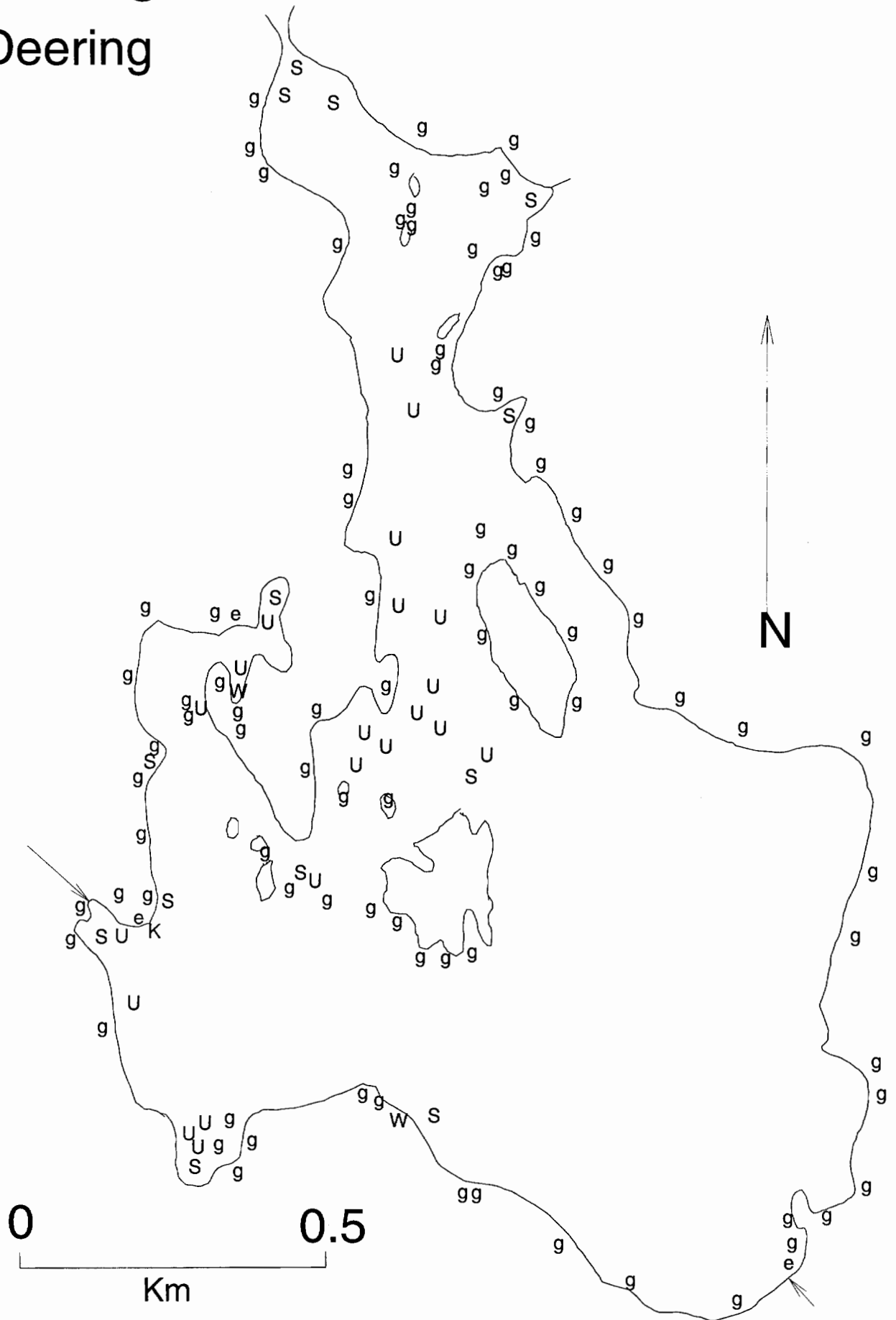
10 foot depth contours



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# Deering Reservoir

Deering



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